FACT SHEET

BORON

OVERVIEW
The mineral boron is the 51st most occurring element, and occurs naturally as boron oxide, boric acid and borax. Known as borates, these compounds can be found in sedimentary rock, coal and shale.

OCCURS NATURALLY
Boron enters the environment naturally through the weathering of rocks, boric acid volatilization from seawater as well as volcanic and geothermal activity.

More than 80 percent of public groundwater systems have had some detections of boron.

COMMON USES
Borates are used in every-day consumer products such as

- glass and ceramic production;
- soaps and detergents
- fertilizers;
- pesticides; and
- flame retardants.

It also is an essential nutrient required for plant growth.

HUMAN EXPOSURE
The highest source of boron in the human diet comes from fruits, legumes, nuts, vegetable and grains. The estimated average dietary intake of boron in U.S. male adults is 1.5 milligrams per-day, while the consumption of wine can add an additional 4 milligrams. For some individuals, boron intake can be as high as 6 milligrams per-day.

Some studies have found that low intake of boron affect cellular function, leading to the development of over-the-counter boron supplements.

TOXICITY
It would take an unusually high level of boron consumption (15,000 to 20,000 milligrams) for it to be fatal. One would have to consume 776 gallons of Chaco Wash water to reach the 15,000 milligram-per-liter level.

The highest level of boron APS has measured in the Chaco Wash is 5.1 milligrams per liter; the highest level of boron APS has measured anywhere is 130 milligrams per liter in a well 20 feet below ground level. (It is important to note the most recent sample taken from that same well measured 65 milligrams per liter, an indication the intercept trench is making a positive impact.)

QUESTIONS?
More information about boron can be found at epa.gov.

Information included in this document comes from the Summary Document from the Health Advisory for Boron and Compounds prepared by Health and Ecological Criteria Division, Office of Science and Technology, Office of Water for Office of Groundwater/Drinking Water, U.S. EPA and U.S. EPA's Drinking Water Health Advisory for Boron.